

**S2 Table. Survival data and statistics for lifespan experiments.** The effects of glucose-supplemented diets on the lifespan of wild-type, mutant or RNAi-treated animals.

Treatment	Strain (n)	Mean lifespan (days)	Changes in mean lifespan (%) <sup>Δ</sup>	Max. lifespan (days)	Changes in max lifespan (%) <sup>Δ</sup>	$\chi^2$	P value	Figure in text
Control	N2 Bristol (110)	14.48	-	23	-	-	-	Figure 7A
	N2 Bristol (110)	16.18	-	26	-	-	-	Figure 7A
	N2 Bristol (110)	17.21	-	25	-	-	-	Figure 7A
20 mM glucose	N2 Bristol (110)	14.11	-2.56 <sup>a</sup>	17	-26.09 <sup>a</sup>	0.23 <sup>a</sup>	0.628 (ns)	Figure 7A
	N2 Bristol (110)	16.21	+0.19 <sup>a</sup>	19	-26.92 <sup>a</sup>	1.33 <sup>a</sup>	0.479 (ns)	Figure 7A
	N2 Bristol (110)	16.40	-4.71 <sup>a</sup>	20	-20.00 <sup>a</sup>	1.19 <sup>a</sup>	0.316 (ns)	Figure 7A
40 mM glucose	N2 Bristol (110)	10.03	-30.73 <sup>a</sup>	16	-30.43 <sup>a</sup>	48.72 <sup>a</sup>	<0.0001	Figure 7A
	N2 Bristol (110)	11.22	-30.66 <sup>a</sup>	15	-42.31 <sup>a</sup>	52.65 <sup>a</sup>	<0.0001	Figure 7A
	N2 Bristol (110)	13.23	-23.13 <sup>a</sup>	15	-40.00 <sup>a</sup>	50.37 <sup>a</sup>	<0.0001	Figure 7A
80 mM glucose	N2 Bristol (110)	9.72	-32.87 <sup>a</sup>	13	-43.48 <sup>a</sup>	57.72 <sup>a</sup>	<0.0001	Figure 7A
	N2 Bristol (110)	12.43	-23.18 <sup>a</sup>	13	-50.00 <sup>a</sup>	65.96 <sup>a</sup>	<0.0001	Figure 7A
	N2 Bristol (110)	11.80	-31.44 <sup>a</sup>	16	-36.00 <sup>a</sup>	47.60 <sup>a</sup>	<0.0001	Figure 7A
100 mM glucose	N2 Bristol (110)	9.25	-36.12 <sup>a</sup>	11	-52.17 <sup>a</sup>	71.63 <sup>a</sup>	<0.0001	Figure 7A
	N2 Bristol (110)	10.02	-38.07 <sup>a</sup>	13	-50.00 <sup>a</sup>	80.37 <sup>a</sup>	<0.0001	Figure 7A
	N2 Bristol (110)	11.49	-33.24 <sup>a</sup>	15	-40.00 <sup>a</sup>	60.47 <sup>a</sup>	<0.0001	Figure 7A
Control	N2 Bristol (100)	14.43	-	23	-	-	-	Figures 7D, 7E, and 7G,
	N2 Bristol (120)	16.24	-	26	-	-	-	Figures 7D, 7E, and 7G,
	N2 Bristol (120)	17.21	-	27	-	-	-	Figures 7D, 7E, and 7G,
100 mM glucose	N2 Bristol (110)	9.79	-32.15 <sup>a</sup>	11	-52.17 <sup>a</sup>	39.14 <sup>a</sup>	<0.0001	Figures 7D, 7E, and 7G,
	N2 Bristol (120)	10.70	-34.11 <sup>a</sup>	16	-38.46 <sup>a</sup>	86.79 <sup>a</sup>	<0.0001	Figures 7D, 7E, and 7G,
	N2 Bristol (120)	10.02	-38.30 <sup>a</sup>	13	-51.85 <sup>a</sup>	56.69 <sup>a</sup>	<0.0001	Figures 7D, 7E, and 7G,
Control	<i>daf-16</i> (mgDf50) (110)	10.95	-24.11 <sup>a</sup>	14	-39.13 <sup>a</sup>	46.09 <sup>a</sup>	<0.0001	Figure 7G
	<i>daf-16</i> (mgDf50) (110)	11.03	-32.08 <sup>a</sup>	16	-38.46 <sup>a</sup>	44.28 <sup>a</sup>	<0.0001	Figure 7G
	<i>daf-16</i> (mgDf50) (110)	11.45	-33.47 <sup>a</sup>	16	-40.74 <sup>a</sup>	53.27 <sup>a</sup>	<0.0001	Figure 7G

100 mM glucose	<i>daf-16</i> (mgDf50) (110)	9.91	-31.32 <sup>a</sup>	12	-47.83 <sup>a</sup>	26.69 <sup>a</sup> 11.75 <sup>b</sup>	<0.0001 0.0018	Figure 7G
	<i>daf-16</i> (mgDf50) (110)	8.62	-46.92 <sup>a</sup>	13	-50.00 <sup>a</sup>	30.18 <sup>a</sup> 13.27 <sup>b</sup>	<0.0001 0.0029	Figure 7G
	<i>daf-16</i> (mgDf50) (110)	10.2	-40.73 <sup>a</sup>	11	-59.26 <sup>a</sup>	37.64 <sup>a</sup> 16.50 <sup>b</sup>	<0.0001 0.0003	Figure 7G
Control	<i>daf-16</i> (mu86) (120)	11.85	-17.88 <sup>a</sup>	20	-13.04 <sup>a</sup>	51.35 <sup>a</sup>	<0.0001	Figure 7H
	<i>daf-16</i> (mu86) (120)	11.26	-30.67 <sup>a</sup>	20	-23.08 <sup>a</sup>	54.63 <sup>a</sup>	<0.0001	Figure 7H
100 mM glucose	<i>daf-16</i> (mu86) (120)	10.23	-29.11 <sup>a</sup>	16	-30.43 <sup>a</sup>	94.61 <sup>a</sup> 13.04 <sup>b</sup>	<0.0001 0.0003	Figure 7H
	<i>daf-16</i> (mu86) (120)	9.19	-43.41 <sup>a</sup>	15	-42.30 <sup>a</sup>	74.80 <sup>a</sup> 17.26 <sup>b</sup>	<0.0001 0.0005	Figure 7H
Control	<i>skn-1</i> (zu135) (110)	12.41	-13.99 <sup>a</sup>	18	-21.74 <sup>a</sup>	18.59 <sup>a</sup>	<0.0001	Figure 7E
	<i>skn-1</i> (zu135) (110)	12.23	-24.69 <sup>a</sup>	18	-30.77 <sup>a</sup>	19.78 <sup>a</sup>	<0.0001	Figure 7E
	<i>skn-1</i> (zu135) (110)	12.16	+18.93 <sup>a</sup>	19	-20.83 <sup>a</sup>	16.54 <sup>a</sup>	0.0002	Figure 7E
100 mM glucose	<i>skn-1</i> (zu135) (110)	12.35	-14.41 <sup>a</sup>	18	-21.74 <sup>a</sup>	15.99 <sup>a</sup> 0.01 <sup>b</sup>	0.0002 0.904 (ns)	Figure 7E
	<i>skn-1</i> (zu135) (110)	12.40	-23.65 <sup>a</sup>	18	-30.77 <sup>a</sup>	17.21 <sup>a</sup> 0.9 <sup>b</sup>	0.0001 0.183(ns)	Figure 7E Figure 7E
	<i>skn-1</i> (zu135) (110)	11.70	-27.96 <sup>a</sup>	17	-29.16 <sup>a</sup>	16.47 <sup>a</sup> 0.18 <sup>b</sup>	0.0002 0.234(ns)	Figure 7E Figure 7E
Control	<i>cep-1</i> (gk138) (110)	13.79	-4.44 <sup>a</sup>	20	-13.04 <sup>a</sup>	13.26 <sup>a</sup>	0.0008	Figure 7D
	<i>cep-1</i> (gk138) (110)	14.02	-13.67 <sup>a</sup>	22	-15.38 <sup>a</sup>	16.47 <sup>a</sup>	0.0003	Figure 7D
	<i>cep-1</i> (gk138) (110)	14.22	-17.37 <sup>a</sup>	21	-22.22 <sup>a</sup>	18.97 <sup>a</sup>	0.0001	Figure 7D
100 mM glucose	<i>cep-1</i> (gk138) (110)	12.49	-13.44 <sup>a</sup>	20	-13.04 <sup>a</sup>	3.54 <sup>a</sup> 4.97 <sup>b</sup>	0.179 (ns) 0.078 (ns)	Figure 7D
	<i>cep-1</i> (gk138) (110)	13.06	-19.58 <sup>a</sup>	19	-26.92 <sup>a</sup>	6.48 <sup>a</sup> 2.68 <sup>b</sup>	0.0053(ns) 0.086(ns)	Figure 7D Figure 7D
	<i>cep-1</i> (gk138) (110)	12.7	-26.21 <sup>a</sup>	21	-22.22 <sup>a</sup>	4.16 <sup>a</sup> 1.27 <sup>b</sup>	0.093 (ns) 0.296(ns)	Figure 7D Figure 7D
Control (RNAi)	N2; <i>pL4440</i> (110)	13.07	-	22	-	-	-	Figures 7B, 7C, and 7F
	N2; <i>pL4440</i> (110)	14.28	-	20	-	-	-	Figures 7B, 7C, and 7F

	N2; <i>pL4440</i> (110)	13.29	-	20	-	-	-	Figures 7B, 7C, and 7F
100 mM glucose (RNAi)	N2; <i>pL4440</i> (110)	9.39	-28.16 <sup>c</sup>	12	-45.45 <sup>c</sup>	39.05 <sup>c</sup>	<0.0001	Figures 7B, 7C, and 7F
	N2; <i>pL4440</i> (110)	10.23	-28.36 <sup>c</sup>	13	-35.00 <sup>c</sup>	44.05 <sup>c</sup>	<0.0001	Figures 7B, 7C, and 7F
	N2; <i>pL4440</i> (110)	9.01	-36.90 <sup>c</sup>	12	-40.00 <sup>c</sup>	38.27 <sup>c</sup>	<0.0001	Figures 7B, 7C, and 7F
Control (RNAi)	N2; <i>sbp-1</i> (110)	11.72	-10.33 <sup>c</sup>	19	-13.64 <sup>c</sup>	1.65 <sup>c</sup>	0.199 (ns)	Figure 7F
	N2; <i>sbp-1</i> (110)	12.01	-15.90 <sup>c</sup>	19	-5.00 <sup>c</sup>	0.34 <sup>c</sup>	0.478 (ns)	Figure 7F
	N2; <i>sbp-1</i> (110)	11.19	-21.64 <sup>c</sup>	18	-10.00 <sup>c</sup>	1.89 <sup>c</sup>	0.290 (ns)	Figure 7F
100 mM glucose (RNAi)	N2; <i>sbp-1</i> (110)	9.42	-27.93 <sup>c</sup>	15	-31.82 <sup>c</sup>	10.31 <sup>c</sup> 0.38 <sup>d</sup>	0.004 0.900(ns)	Figure 7F
	N2; <i>sbp-1</i> (110)	10.13	-29.06 <sup>c</sup>	13	-35.00 <sup>c</sup>	16.70 <sup>c</sup> 0.47 <sup>d</sup>	0.004 0.123 (ns)	Figure 7F Figure 7F
	N2; <i>sbp-1</i> (110)	10.46	-26.75 <sup>c</sup>	15	-35.00 <sup>c</sup>	18.27 <sup>c</sup> 0.44 <sup>d</sup>	0.002 0.110(ns)	Figure 7F Figure 7F
	N2; <i>sbp-1</i> (110)	10.46	-26.75 <sup>c</sup>	15	-35.00 <sup>c</sup>	18.27 <sup>c</sup> 0.44 <sup>d</sup>	0.002 0.110(ns)	Figure 7F Figure 7F
Control (RNAi)	N2; <i>hif-1</i> (110)	15.59	+19.28 <sup>c</sup>	22	0 <sup>c</sup>	95.16 <sup>c</sup>	<0.0001	Figure 7B
	N2; <i>hif-1</i> (110)	18.20	+27.45 <sup>c</sup>	22	+10.00 <sup>c</sup>	98.23 <sup>c</sup>	<0.0001	Figure 7B
	N2; <i>hif-1</i> (110)	17.34	+21.43 <sup>c</sup>	20	0 <sup>c</sup>	89.60 <sup>c</sup>	<0.0001	Figure 7B
100 mM glucose (RNAi)	N2; <i>hif-1</i> (110)	14.96	+14.46 <sup>c</sup>	22	0 <sup>c</sup>	4.6 <sup>c</sup> 0.79 <sup>d</sup>	0.065 (ns) 0.987 (ns)	Figure 7B
	N2; <i>hif-1</i> (110)	16.2	+13.45 <sup>c</sup>	21	+5.00 <sup>c</sup>	6.41 <sup>c</sup> 0.620 <sup>d</sup>	0.045 0.746 (ns)	Figure 7B Figure 7B
	N2; <i>hif-1</i> (110)	15.87	+11.13 <sup>c</sup>	20	0 <sup>c</sup>	5.98 <sup>c</sup> 0.521 <sup>d</sup>	0.050 0.601 (ns)	Figure 7B Figure 7B
	N2; <i>hif-1</i> (110)	15.87	+11.13 <sup>c</sup>	20	0 <sup>c</sup>	5.98 <sup>c</sup> 0.521 <sup>d</sup>	0.050 0.601 (ns)	Figure 7B Figure 7B
Control (RNAi)	N2; <i>crh-1</i> (110)	19.14	+46.44 <sup>c</sup>	28	+27.27 <sup>c</sup>	40.62 <sup>c</sup>	<0.0001	Figure 7C
	N2; <i>crh-1</i> (110)	20.5	+43.56 <sup>c</sup>	29	+45.00 <sup>c</sup>	63.85 <sup>c</sup>	<0.0001	Figure 7C
	N2; <i>crh-1</i> (110)	21.2	+48.46 <sup>c</sup>	27	+35.00 <sup>c</sup>	52.14 <sup>c</sup>	<0.0001	Figure 7C
100 mM glucose (RNAi)	N2; <i>crh-1</i> (110)	17.77	+35.96 <sup>c</sup>	26	+18.18 <sup>c</sup>	21.58 <sup>c</sup> 3.8 <sup>d</sup>	<0.0001 0.512 (ns)	Figure 7C
	N2; <i>crh-1</i> (110)	19.33	+35.36 <sup>c</sup>	24	+20.00 <sup>c</sup>	19.76 <sup>c</sup> 3.22 <sup>d</sup>	<0.0001 0.443 (ns)	Figure 7C Figure 7C
	N2; <i>crh-1</i> (110)	18.27	+27.94 <sup>c</sup>	25	+25.00 <sup>c</sup>	26.44 <sup>c</sup> 2.61 <sup>d</sup>	<0.0001 0.347 (ns)	Figure 7C Figure 7C
	N2; <i>crh-1</i> (110)	18.27	+27.94 <sup>c</sup>	25	+25.00 <sup>c</sup>	26.44 <sup>c</sup> 2.61 <sup>d</sup>	<0.0001 0.347 (ns)	Figure 7C Figure 7C

<sup>Δ</sup>: Throughout S2 Table, % change in lifespan and *P* values were calculated against the control condition. Increase (+) or decrease (-) in lifespan was indicated. (n) : number of worms, (ns) : not statistically significant,  $\chi^2$  : chi-squared.

<sup>a</sup> compared to wild-type animals in the control condition.

<sup>b</sup> compared to the same strain in the control condition against the HG condition.

<sup>c</sup> compared to N2 with empty vector pL4440 in the control condition.

<sup>d</sup> compared to the same RNAi in the control condition against the HG condition.